

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) An image forming apparatus for digitally reproducing a color image using a screen set consisting of a halftone screen for each color, the screen set comprising:

a first-color halftone screen having an associated first halftone pitch; and

a second-color halftone screen having an associated second halftone pitch measured in a corresponding direction to the first halftone pitch, wherein

a third-color halftone screen; and

a fourth-color halftone screen, wherein

two first screen vectors, one in each of the first and second-color halftone screen, screens, each first screen vector being in a spatial frequency domain defined by a basis vector of a halftone dot pattern of the respective halftone screen, are parallel to each other,

two second screen vectors, one in each of the first and second-color halftone screen, screens, each second screen vector being in a spatial frequency domain defined by a basis vector of a halftone dot pattern of the respective halftone screen, are not parallel to each other, and

two second screen vectors, one in each of the third and fourth-color halftone screens, each second screen vector being in a spatial frequency domain defined by a basis vector of a halftone dot pattern of the respective halftone screen, are parallel to each other,
and

two first screen vectors, one in each of the third and fourth-color halftone screens, each first screen vector being in a spatial frequency domain defined by a basis vector

of a halftone dot pattern of the respective halftone screen, are not parallel to each other.~~the first halftone pitch differs from the second halftone pitch.~~

2. (Previously Presented) An image forming apparatus according to claim 1, wherein said first-color halftone screen and said second-color halftone screen further satisfy a relationship that said first screen vectors are equal in magnitude.

3. (Original) An image forming apparatus according to claim 2, wherein at least one of said first-color and second-color halftone screens is a non-orthogonal screen.

4. (Canceled)

5. (Previously Presented) An image forming apparatus according to ~~claim 4,~~
claim 1, wherein

said second screen vector of said first-color halftone screen matches secondary spectra represented by the sum or the difference of two screen vectors of said fourth-color halftone screen, and

said first screen vector of said third-color halftone screen matches secondary spectra represented by the sum or the difference of two screen vectors of said second-color halftone screen.

6. (Previously Presented) An image forming apparatus according to claim 5, wherein

said first screen vector of said first-color halftone screen, said first screen vector of said third-color halftone screen, and said second screen vector of said second-color halftone screen form a closed triangle, and

said second screen vector of said first-color halftone screen, said first screen vector of said fourth-color halftone screen, and said screen second vector of said third-color halftone screen form a closed triangle.

7. (Previously Presented) An image forming apparatus according to claim 2, wherein said second screen vector of said first-color halftone screen matches either one of two screen vectors of a third-color halftone screen in said screen set.

8. (Original) An image forming apparatus according to claim 7, wherein a secondary spectrum represented by the sum or the difference of the two screen vectors of said first-color halftone screen matches either one of two screen vectors of a fourth-color halftone screen in said screen set.

9. (Original) An image forming apparatus according to claim 2, wherein
said screen set comprises four color halftone screens, and
the four color halftone screens have a relationship that two closed triangles can be formed using two screen vectors of each of the four color halftone screens, without a remainder.

10. (Original) An image forming apparatus according to claim 2, wherein in a case where directions of halftone dot arrangement match between said first-color and second-color halftone screens, halftone dot intervals in the matched direction of the first-color halftone screen differ from the halftone dot intervals in the matched direction of the second-color halftone screen.

11. (Original) An image forming apparatus according to claim 2, wherein
said screen set comprises four color halftone screens, and
among a total of 8 primary spatial frequency spectra each corresponding to one of the screen vectors for each color and a total of 8 secondary spatial frequency spectra each corresponding to the sum or the difference of the screen vectors for the same color, the number of different spatial frequency spectra contained in a band of from the minimum frequency to the maximum frequency of said 8 primary spatial frequency spectra is less than 8.

12. (Original) An image forming apparatus according to claim 11, wherein said screen set comprises four halftone screens, one for each color, and among a total of 8 primary spatial frequency spectra, each corresponding to one of the screen vectors for each color and a total of 8 secondary spatial frequency spectra, each corresponding to the sum or the difference of the screen vectors for the same color, the number of different spatial frequency spectra contained in a band of from the minimum frequency to the maximum frequency of said 8 primary spatial frequency spectra is 6.

13. (Currently Amended) An image forming method for digitally reproducing a color image, comprising:

generating halftone images from input color images using a screen set consisting of multiple color halftone screens, the screen set comprises a first-color halftone screen having an associated first halftone ~~pitch and pitch~~, a second-color halftone screen having an associated second halftone pitch measured in a corresponding direction to the first halftone pitch, ~~the first halftone pitch being different from the second halftone pitch, a third-color halftone screen; and a fourth-color halftone screen, wherein~~

two first screen vectors, one in each halftone screen, each first screen vector being in a spatial frequency domain defined by a basis vector of a halftone dot pattern of the respective halftone screen, are parallel to each other,

two second screen vectors, one in each halftone screen, each second screen vector being in a spatial frequency domain defined by a basis vector of a halftone dot pattern of the respective halftone screen, are not parallel to each other, ~~and~~

two second screen vectors, one in each of the third and fourth-color halftone screens, each second screen vector being in a spatial frequency domain defined by a basis vector of a halftone dot pattern of the respective halftone screen, are parallel to each other, and

two first screen vectors, one in each of the third and fourth-color halftone screens, each first screen vector being in a spatial frequency domain defined by a basis vector of a halftone dot pattern of the respective halftone screen, are not parallel to each other,

reproducing said input color images by combining said halftone images.

14. (Previously Presented) An image forming method according to claim 13, wherein said first-color halftone screen and said second-color halftone screen further satisfy a relationship that said first screen vectors are equal in magnitude.

15. (Original) An image forming method according to claim 14, wherein at least one of said first-color and second-color halftone screens is a non-orthogonal screen.

16. (Canceled)

17. (Previously Presented) The image forming apparatus according to claim 1, wherein said first-color and second-color halftone screens are an orthogonal screen and a non-orthogonal screen.